REMARKS

Applicants appreciate the thorough examination of the application that is reflected in the Office Action dated October 2, 2003.

Applicants amend claims 1-3, 5-7, 12, 16, 18, 20, 25, 30-32, 36, 40 and 42 to correct informalities and typographical errors. Each occurrence of the term "correspondingly" has been removed in the claims, and the term "respectively" has been added. This amendment is made to correct a typographical error and clarify the claims. The amendments do not alter the scope of those claims, and should not be construed as an admission that the original claims are in any way unpatentable over the cited references since these amendments are not made in response to any rejection.

Claims 1-43 are pending in the application. Reexamination and reconsideration of the application are respectfully requested.

Claim Objections

The Office objects to claims 1-43 since the word "and" was not included between the last two elements of claims 1, 3, 5, 7, 12, 18, 20, 25, 30, 32, 36 and 42. Applicants submit that the above-outlined amendments render this objection moot, and request that this objection be withdrawn.

Art-Based Rejections

The Office rejects claims 1, 2, 5, 6, 9-17, 20, 23-27, 30, 31 and 34-41 under 35 U.S.C. 102(e) as being unpatentable over Gitlin et al. (USPN 6,064,662), and rejects claims 3, 4, 7, 8, 18, 19, 21, 22, 28, 29, 32, 33, 42 and 43 under 35 U.S.C. 103(a) as being unpatentable over Gitlin et al. further in view of Kawable (EP 0998052).

Applicants respectfully traverse these rejections for at least the following reasons.

Claims 1-4

In rejecting claim 1, the Office Action asserts that FIGS. 7 and 8 of the Gitlin reference disclose "partitioning said data frame into at least a first and second portions of data symbols (S0 and S1)."

Applicants respectfully disagree, and submit that this is a mischaracterization of the Gitlin reference for at least the following reasons. Applicants note that the present application

describes a "frame of data 100" as including "any number of data symbols," and that "Each data symbol may be represented as a number of chips." *Application* at page 5, lines 23-25, and page 6, lines 17-18, respectively.

By contrast, col. 4, lines 2-6 of Gitlin, discusses that the "the overall time-frequency spectrum (or medium) 40 can be partitioned in both the time and frequency domains as a plurality of frequency bands ("slices") 42 (F0, F1, ...FN) extending over a plurality of individual time slots ("slices") 44 (S0, S1, ...SN). Col. 7, lines 39-44 of Gitlin further describes that "The overall medium 40' is partitioned into a plurality of individual, discrete 'codes' (43) either over the time (44) domain (FIG. 7) or frequency band 42 domain (FIG. 8), accounting for the relative use of the available code space which is contained within the overall medium 40'." Thus, contrary to the position stated in the Office Action, the overall medium 40' of Gitlin is not a "data frame," and the time slots S0 and S1 are not "data symbols," as required by claim 1. Rather,

Accordingly, Applicants respectfully submit that the Gitlin reference fails to teach or suggest, for example, "partitioning said frame of data into at least a first and second portions of data symbols," as recited in claim 1.

In rejecting claim 1, the Office Action also asserts that column 7, lines 27-58 of the Gitlin reference discloses "assigning a first channel element to demodulate data symbols of said first portion of data symbols," and "assigning a second channel element to demodulate data symbols of said second portion of data symbols." Applicants respectfully disagree, and submit that this is also a mischaracterization of the Gitlin reference for at least the following reasons.

Applicants note that the present application describes a "channel element" as a "communication resource ...allocated for processing a data frame" that "may include one or more fingers for correlating with different multi-path signals. The channel element demodulates the data symbols in each received data frame." *Application* at page 2, lines 3-6. The present application also discusses an example of one embodiment of a channel element, that is shown in FIG. 3, at page 8, line 4 through page 9, line 21.

Applicants submit that nothing in column 7, lines 27-58 of the Gitlin reference suggests "assigning a first channel element to demodulate data symbols of said first portion of data symbols," or "assigning a second channel element to demodulate data symbols of said second

portion of data symbols," as recited in claim 1. Rather, column 7, lines 27-58 of the Gitlin reference discloses:

> The principles underlying the system and method of the invention will serve to enhance usage of the CDMA medium. The resource space might be sliced into a "time-code" space, a "frequency-code" space or, if viewed in three dimensions, into a "time-frequence-code" space. Thus, it will be appreciated that the scheduling approach according to the system and method of the invention can also be used in the CDMA domain to improve resource usage.
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> FIG. **7** depicts application of a "time-code" slicing method as applied to transmissions in the CDMA domain. FIG. **8** depicts a "frequency-code" clising approach. As before, a plurality of different speed users **46, 48, 50** are contemplated. The overall medium **40'** is partitioned into a plurality of individual, discrete "codes" **(43)** either over the time **(44)** domain (FIG. **7**) or frequency band **42** domain (FIG. **8**), accounting for the relative use of the available code space which is contained within the overall medium **40'**.
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> The term "code space" is used to denote the overall set of all possible codes for assignment to user transmission employing, for instance, a "family" of codes acceptable for purposes of cross0correlation. A user requiring a large degree of code space – for instance, users G, B M, Q, F – can be granted code space in a least two ways. For purposes of illustration and not of limitation examples of possible codes space allocations are presented in FIGS. **7, 8,** and **9.** In FIGS. **7** and **8** users B and G, for instance, require a relatively large quantity of code space and as such are granted a plurality of individual codes **43** across time slots (FIG. **7**) or frequency bands (FIG. **8**). The plurality of individual codes are collectively representative of a larger quantity of code space contained within the overall medium **40'**.

The Kawable reference is also deficient.

Thus, Applicants also respectfully submit that the cited references fail to teach or suggest, for example, "assigning a <u>first channel element</u> to demodulate <u>data symbols of said first portion</u> of data symbols," or "assigning <u>a second channel element</u> to demodulate <u>data symbols of said second portion</u> of data symbols," as recited in claim 1.

Accordingly, Applicants respectfully submit that claim 1 is patentable over the cited references. Applicants further submit that dependent claims 2-4 are also patentable over the cited references at least by virtue of their dependency from claim 1, and also because claims 2-4 include features that are neither taught nor suggested by the cited references. Applicants further submit that the rejections of the original claims 3 and 4 under 35 U.S.C. 103(a) were based on

impermissible hindsight gleaned from the present application, and that the Office Action fails to demonstrate any motivation to combine the cryptic teachings of the cited references.

Claims 5-11, 12-19, 20-24, 25-29, 30-35, and 36-43

Claim 5 requires "partitioning said frame of data into a plurality of portions of data symbols," and "assigning a plurality of channel elements to demodulate data symbols of said plurality of portions of data symbols, respectively."

Claim 12 requires "partitioning each of said plurality of frames of data into a plurality of portions of data symbols," and "assigning a plurality of channel elements to each of said plurality of frames of data to demodulate data symbols of said plurality of portions of data symbols of each of said plurality of frames of data, respectively."

Claim 20 requires "a finger resource for partitioning said frame of data into a plurality of portions of data symbols," and "a plurality of channel elements for demodulating data symbols of said plurality of portions of data symbols, respectively."

Claim 25 requires "a finger resource for partitioning each of said plurality of frames of data into a plurality of portions of data symbols,"and "a plurality of channel elements assigned to each of said plurality of frames of data to demodulate data symbols of said plurality of portions of data symbols of each of said plurality of frames of data, respectively."

Claim 30 requires "means for partitioning said frame of data into a plurality of portions of data symbols," and "means for assigning a plurality of channel elements to demodulate data symbols of said plurality of portions of data symbols, respectively."

Claim 36 requires "means for partitioning each of said plurality of frames of data into a plurality of portions of data symbols," and "means for assigning a plurality of channel elements to each of said plurality of frames of data to demodulate data symbols of said plurality of portions of data symbols of each of said plurality of frames of data, respectively."

Applicants submit that the cited references fail to teach or suggest the above limitations of claims 5, 12, 20, 25, 30 and 36 for at least the reasons discussed above with respect to claim 1, and thus submit that claims 5, 12, 20, 25, 30 and 36 are patentable over the cited references.

Applicants further submit that dependent claims 6-11, 13-19, 21-24, 26-29, 31-35 and 37-43 are also patentable at least by virtue of their dependency from claims 5, 12, 20, 25, 30 and 36,

respectively, and also because claims 6-11, 13-19, 21-24, 26-29, 31-35 and 37-43 include features that are neither taught nor suggested by the cited references.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable and in condition for allowance. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: November 25, 2003   By: _____

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